

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 46-49, 51, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tankovich (5,897,549) in view of Eckhouse et al. (5,964,749).

Tankovich discloses the invention substantially as claimed. Tankovich discloses, at least in figure 1 and in col. 2, lines 33; col. 3, line 19 to col. 4, line 34; and col. 5, line 42 to col. 7, line 1; a method of inducing remodeling of the skin, where the method includes generating a beam of radiation having a wavelength of between 1.3 and 1.8 microns (e.g., 1.54 microns), directing the beam of radiation to a targeted dermal region, causing sufficient thermal injury to the targeted dermal region (denaturing proteins or protein molecules, i.e., collagen fibers) to elicit a healing response to cause the skin to remodel itself and stretching the skin disposed above a targeted dermal region (i.e., where skin

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is inherently stretched by contacting a waveguide with the skin—see col. 5, lines 49-61). However, Tankovich does not disclose cooling an epidermal region of the skin above the targeted dermal region before and/or during the step of causing thermal injury, generating a beam of radiation having a fluence as claimed, directing the beam of radiation to a targeted dermal region at the depth below a wrinkle as claimed, and partial denaturization of collagen fibers. Eckhouse et al. teach, at least in col. 1, line 66 to col. 2, line 7 and col. 3, lines 21-65; cooling an epidermal region of the skin above a targeted dermal region before and/or during the step of causing thermal injury, generating a beam of radiation having a fluence as claimed (e.g., 100 J/cm^2), directing the beam of radiation to a targeted dermal region at the depth below a wrinkle as claimed (e.g., 100 microns); and the shrinkage of collagen molecules (inherently caused by the partial denaturization of collagen fibers), thus leading to “increasing the elasticity of the skin and collagen” (see col. 3, lines 21-26). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made, in view of Eckhouse et al., to modify the method of Tankovich, so that an epidermal region of the skin is cooled above the targeted dermal region before and/or during the step of causing thermal injury, a beam of radiation having a fluence as claimed is directed to a targeted dermal region at the depth below a wrinkle as claimed, and collagen fibers are shrunk (i.e., partially denatured). Such modifications would allow the method of Tankovich to remodel and rejuvenate the more superficial formations of sub-epidermal tissue (i.e., at wrinkles) without undue thermal injury to the epidermis.

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3. Claims 50 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tankovich (5,897,549) in view of Eckhouse et al. (5,964,749), and further in view of Knowlton (6,241,753). Tankovich in view of Eckhouse et al. disclose the invention substantially as claimed, but do not disclose that the method includes accelerating collagen synthesis and activating fibroblasts as claimed. Knowlton teaches, at least in col. 7, lines 21-41; that electromagnetic energy applied to collagen in the dermis results in collagen synthesis and activation of fibroblasts. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made, in view of Knowlton, to modify the method of Tankovich in view of Eckhouse et al., so that collagen synthesis and fibroblast activation occurs. Such a method would induce remodeling of the skin (i.e., skin tightening).

Response to Arguments

4. Applicant's arguments with respect to claims 46-53 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian W. Woo whose telephone number is (571) 272-4707. The examiner can normally be reached Mon.-Fri., 7:00 AM to 3:00 PM Eastern Time, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jackie Ho can be reached on (571) 272-4696. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Julian W. Woo/
Primary Examiner, Art Unit 3773

April 18, 2008